


Rural Healthcare: A Meta-Analysis on Green Tea Effect on Markers of Insulin Resistance

Marcelle Savoy PhD², Lori McGrew PhD³, Lauren Wisnieski MS PhD⁴, Karen Szynski DVM MPH PhD DACVPM⁴, Mary Beth Babos MS PharmD BCPS³

¹DeBusk College of Osteopathic Medicine at Lincoln Memorial University-Knoxville, Knoxville, TN, USA
²Reed Health Sciences Library, Lincoln Memorial University-DeBusk College of Osteopathic Medicine, Knoxville, TN, USA
³Dept of Pharmacology, Lincoln Memorial University-DeBusk College of Osteopathic Medicine, Harrogate, TN, USA
⁴Center for Animal and Human Health in Appalachia, Lincoln Memorial University College of Veterinary Medicine, Harrogate, TN, USA



ACADEMIC POSTER CONTEST

...hypothesis that Green Tea Extract (GTE) for ... in insulin-resistance ... human subjects.
 ... Type 2 Diabetes Mellitus (T2DM), ... conditions ...
 ... According to the United States Centers for Disease Control and Prevention (CDC), diabetes has a high prevalence in rural Appalachia.
 ... Green tea (*Camellia sinensis*) contains the catechin (-)-epigallocatechin-3-gallate (EGCG) that may promote ... of insulin resistance and thus management of ... (Fig. 1).
 ... provide an updated guidance on dietary ... and offer insight into effect size ... general population.
 ... EGCG

• Three authors independently used the Cochrane tool for assessing risk of bias in the RCTs used in this study³ (Fig. 3).

• Statistical analyses were performed using the REVMAN 5 software⁴.




Fig. 3 Risk of bias assessment summary

Results

Study or Subgroup	Mean (SD)	SD (SD)	Total	Mean (SD)	SD (SD)	Total	Weight	IV, Random, 95%	IV, Random, 95%
Nguyen 2011	-45.0	1.1	28	-2.6	0.29	28	100%	-24.43	-4.17
Shi 2014	-47.0	4.2	35	-1.8	0.69	35	100%	22.03	25.33
Shi 2017	3.29	1.38	61	1.47	1.14	61	100%	182.35	134.6
Wang 2017	-13.0	3.74	65	1.77	0.85	65	100%	133.25	134.6
Wu 2011	0	4.0	17	1.89	0.71	17	100%	124.05	84.33
Wu 2015	0.00	0.00	35	-0.50	0.02	35	100%	1.01	1.01
Wu 2016	-5.07	1.1	21	0.83	0.38	21	100%	-45.27	-44.31
Total (95% CI)			208			208		-14.06	-14.06

Heterogeneity: $I^2 = 95.0$; $DF = 6$; $ESSE = 8.1$; $I^2 = 100.0$; $I = 7.1$
 Test for heterogeneity: $Chi^2 = 13.8$; $P < 0.001$

Fig. 4 Forest plot on % change in plasma insulin level (mean effect size = -14.06%, 95% CI = -37.49%, +9.38%, p=0.24)

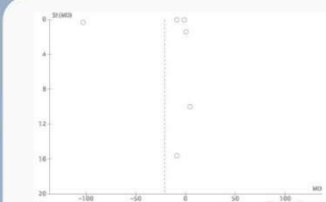



Fig. 7 Funnel plot on % change in HOMA-IR index

Discussion

7 studies were included in the meta-analysis. GT/GTE consumption for over 4 weeks resulted in a statistically significant percentage reduction in HOMA-IR index and non-statistically significant percentage reduction in plasma insulin levels (Fig. 4 and 6).



9th Annual Student, Resident, and Faculty
Virtual Poster Competition Information
November 15–17, 2023

Rural Health Association of Tennessee

9th Annual Student, Resident, and Faculty Virtual Poster Competition Information

This virtual research poster competition is a low-cost way for students, residents, and faculty to share their research without the costs of producing a “hard-copy” poster.

Division winners and the overall winner will receive a gift certificate or modest cash award (check).

Submission Deadline: Monday, October 16, 2023 (No late entrants will be accepted).

Announcements of the winners, Thursday, November 16, 2023, at Annual Conference luncheon. You do not have to be present to win.

Evaluation and Judging

Submissions to the Virtual Poster Competition will be evaluated in two areas:

- Scientific Content (75%)
 - Introduction & background with pertinent literature cited (15 points)
 - Objectives clearly stated & concise (15 points)
 - Materials & methods (study design) clear & concise (15 points)
 - Results & discussion clear, concise & accurate (15 points)
 - Significance of results to field of study (15 points)
- Virtual Poster Display (25%)
 - Organization
 - Logical order, minimum redundancy (5 points)
 - Effective use of space; smooth transitions (5 points)
 - Text, Figures, and Tables
 - Legible with large fonts, color contrast, no conflicting backgrounds (5 points)
 - Text with no grammatical errors; not excessively wordy (5 points)
 - Effective use of figures and/or tables, coordinated with text (5 points)

Numerical scores are proportioned accordingly. Each poster display is judged independently by three judges. Top candidates may be contacted to respond to questions by one or more judges.

In the event of a tie, the Competition Co-Chairs will use the submitted abstract as a tie-breaker. Abstracts will be judged according to how informative and well written it is and how well it correlates with the presentation.

A sample Virtual Poster Competition Scorecard is available for reference.

Divisions

The following four divisions will be judged separately from one another:

1. Undergraduate and Masters’ Students
2. Doctoral and Professional Students (MD, DO, PA, NP, DMS, PhD, etc.)
3. Postdoctoral Trainees (Medical Residents, Fellows, etc.)
4. Faculty

Suggestions for Posters

Each poster must be created in Microsoft PowerPoint or PDF. A template is attached.

Poster design can significantly enhance or severely diminish the effectiveness of your presentation. The following guidelines are general considerations:

- Focus of attention: The focus of attention must be on the subject content. If the design overshadows the subject matter, the message is likely to be lost.
- Size and selection of visuals: Larger visuals attract more attention. Visuals not relevant to the content will distract the viewer.
- Density of visuals and text (labels): Too many visuals (pictures) and text (labels) in a small space decreases readers' attention, because each object is in competition with the others. Minimize these to prevent stimulus overload! Generally, a maximum length of 50-75 words per label results in a higher probability of people reading it.
- Ability to read text: Letters should be large so that they can easily be read from 2-3 feet away. Letters should be easily read (avoid Old English and other "fancy" fonts).
- Poster layout:
 - Use a consistent layout with heading and subheading font and size standardized;
 - Use bulleted lists to facilitate reading;
 - Relate the content of the text to the picture it describes;
 - Reduce competing stimuli—Avoid placing a large number of labels and visuals next to one another; and
 - Provide good contrast between the text and background (avoid white on white, blue on navy, etc.).

Application: <https://www.surveymonkey.com/r/2023VirtualPosterContest>

TENNESSEE RURAL HEALTH ASSOCIATION Virtual Poster Presentation Evaluation

Division: (1)Undergrad/Masters (2)Doctoral/Professional (3)Post Doc/GME (4)Faculty

Judge: _____

		Points	Poster#																
Scientific Content (75%)	Content	15	Introduction & background w/ pertinent literature cited																
		15	Objectives clearly stated & concise																
		15	Materials & methods (study design) clear & concise																
		15	Results & discussion clear, concise, and accurate																
		15	Significance of results to field of study																
Poster Display 25%	Organization	5	Logical order, minimum redundancy																
		5	Effective use of space; smooth transitions between sections																
	Text, figures, Tables	5	Legible w/ large fonts, color contrast, no conflicting backgrounds																
		5	Text w/ no grammatical errors; not excessively wordy																
		5	Effective use of figures and/or tables, coordinated w/ text																

E = Excellent, VG = Very good, G = Good, F = Fair, NI = Needs improvement
 10 pts: E=9-10, VG=7-8, G=5-6, F=3-4, and NI=2-1

TENNESSEE RURAL HEALTH ASSOCIATION Virtual Poster Presentation Evaluation

Division: (1)Undergrad/Masters (2)Doctoral/Professional (3)Post Doc/GME (4)Faculty Judge: _____

Poster#	Presenter	Comments

E = Excellent, VG = Very good, G = Good, F = Fair, NI = Needs improvement
 10 pts: E=9-10, VG=7-8, G=5-6, F=3-4, and NI=2-1